

2). Moore describes the heads as homogamous, yet quite often they are unisexual—either entirely female, or hermaphrodite but functionally male.

One might imagine that by this time the generic name would be finally fixed to the satisfaction of all; but, within six years (1911) we find Ewart and Rees erecting another new genus, *Stera*, apparently in complete ignorance that S. le M. Moore had already published *Cratystylis*. The joint authors failed to state how their genus differed from *Pluchea*; but by a strange coincidence they adopted the self-same epithets for the other two species (*microphylla* and *subspinescens*) that Moore had already used. *Stera*, of course, immediately lapsed as a superfluous name, since it was based on the type of *Cratystylis*.

The latest, and perhaps most astonishing, nomenclatural guise assumed by *C. conocephala* concerns a collection made by C. H. Ostenfeld at Kalgoorlie on October 7, 1914. This was described in 1921 (*l.c.*) as a new species, *Pteronia australiensis*, by J. Hutchinson who stated:

"When Dr. Ostenfeld first showed me this remarkable Composite I said at once that it was a *Pteronia*, a South African genus with which I am very well acquainted. . . . Subsequent investigation has confirmed this surmise, and I have no hesitation in describing the plant as a new species of *Pteronia*."

But *Pteronia* belongs to the *Astereae*, and in E. P. Phillips's *Genera of South African Flowering Plants*, ed. 2: 779 (1951) it is described as having a deeply honeycombed receptacle, anthers obtuse or rarely acute at base, and style-arms usually lanceolate at the apex—none of which characteristics apply to *Cratystylis*. C. A. Gardner in his *Enum. Plant. Aust. Occid.*, pp. 130-131 (1931), under the tribe *Astereae*, lists both "species" *Pteronia australiensis* and *Cratystylis conocephala*.

Dr. Nancy T. Burbidge more recently indicates the synonymy of *P. australiensis* with *C. conocephala* in her *Dictionary of Australian Plant Genera*, p. 246 (1963); she had made a tentative suggestion to this effect (August 28, 1953) on the type sheet of the former in Copenhagen Herbarium. The present writer has also examined this material and is in complete agreement that it represents *Cratystylis conocephala*; furthermore, he considers that Spencer Moore was correct in assigning the genus to tribe *Inuleae*.

#### SUMMARY

The new combination *Trichocline spathulata* is effected; and the full synonymy of *Cratystylis conocephala* is listed and discussed.

## REDISCOVERY AND TAXONOMIC STATUS OF THE WESTERN AUSTRALIAN GECKO

### *DIPLODACTYLUS MICHAELSENI*

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Among the collections of the Hamburg Expedition to southwestern Australia was a new gecko from Denham, Shark Bay, which Werner (1910 : 460) named *Diplodactylus michaelseni* after the leader of the expedition. A little later the Mjöberg Expedition to west Kimberley collected a gecko at Broome on which Lönnberg and Andersson (1913 : 5) based a new genus and

species, *Oedurella taeniata*. Despite its evident similarity in colour pattern and subdigital scalation, *taeniata* was not compared with *michaelseni*, and we can only suppose that its authors were unaware of Werner's description.

Over the years *taeniata* has proved moderately common in spinifex (*Triodia* spp.) throughout a large part of arid tropical Australia, i.e. in the Northern Territory from Elliott south to Tennant Creek, and in Western Australia from Broome and Christmas Creek south to Turee Creek and Weld Spring. In contrast the type of *michaelseni* long remained unique, and herpetologists began to doubt whether it was different from *taeniata*. Recently *michaelseni* and *taeniata* were formally synonymised by Wermuth (1965 : 24).

On 16 December 1964 the junior author collected two *michaelseni* in clumps of soft spinifex (*Plectrachne* sp.) growing in red undulating sandy country 50 miles south of the type-locality; they are registered in the Western Australian Museum as R 23862-3. Two other geckos, *Heteronota bynoei* and *Crenodactylus ocellatus*, were collected in the same habitat.

On 10 May 1965 the senior author collected five specimens of *michaelseni* (R 25277-81) in sedge tussocks near the edge of an open flat in the sandplain 15 miles west of Watheroo. This extended the species' known range southwards for 280 miles.

On capturing these geckos, each of us was immediately impressed by their dissimilarity in habit from *taeniata* (which we were familiar with in the field). This led us to reopen the question of their taxonomic status and to examine all specimens of *michaelseni* and *taeniata* in the Western Australian Museum. Since then another *michaelseni* has been collected—this time by Mr G. Hitehin at 22 miles north-east of Yuna, which is roughly midway between the two previous localities.

#### COMPARISON OF MICHAELSENI WITH TAENIATA

Size—*D. michaelseni* is the larger; the snout-vent length of 8 specimens ranges from 31 to 57 mm. (mean 47), against 32-49 (40) in 40 specimens of *taeniata*.

Habit—*D. michaelseni* is a robust gecko with depressed body and short tail (and thus similar in habit to *D. vittatus*). The body and tail of *taeniata* are subcylindrical in section and extremely thin; these and the long slender limbs render its appearance grotesquely similar to a phasmid's. The tail in 6 specimens of *michaelseni* ranges from 43 to 59 (mean 54) % of the snout-vent length, against 70-101 (83) % in 19 specimens of *taeniata*.

Rostral—In *michaelseni* the median groove extends no more than half-way down the rostral. In *taeniata* the rostral is completely divided.

Nasals—In addition to the rostral and first labial, there are 4-6 (4.7) scales entering the nostril of *michaelseni*; in *taeniata* there are 3-5 (4.1) nasals. *D. michaelseni* has 2 or 3 (2.7) granules separating the anterior nasals, against 0-3 (1.4) in *taeniata*.

Subdigital lamellae—*D. michaelseni* has 5-7 (6.1) transverse lamellae beneath the fourth toe, of which the distal 3-6 (4.0) are undivided. In *taeniata* there are respectively 4-6 (5.2) and 2-4 (3.0).

Coloration—*D. michaelseni* is darker and duller than *taeniata*. Its dorsal ground colour is olive grey, becoming brownier on head and limbs. The pale stripes along dorsum and flanks are brownish white, and the venter is whitish, freckled with dark

brown. In life the iris is pale yellowish brown dotted finely and densely with dark golden-brown except for a narrow yellowish or whitish margin surrounding the "straight vertical" pupil.

The dorsal ground colour of *taeniata* varies from pale reddish brown to pale grey (sometimes almost white). The dorsal stripes vary from orange to pale yellow; the lateral stripes are grey; and along the venter is a broad zone of grey enclosing a yellow or orange stripe.

#### DISCUSSION

While there can be no question that *michaelseni* and *taeniata* belong to different taxa, it is less certain whether they are specifically distinct or merely races of one species.

At present their known ranges are separated by a gap of 350 miles. i.e. from Denham north-east to Turee Creek. This gap is not large compared to the 1,060 miles that separate Turee Creek from Elliott, over which *taeniata* undergoes scarcely any variation. Nor is the gap large in view of the striking differences between the two taxa; for if intergradation did occur, character gradients would necessarily be very steep in the intervening region.

We therefore recommend that the two geckos be provisionally treated as full species: *Diplodactylus michaelseni* Werner and *Diplodactylus taeniatus* (Lonnberg & Anderson).

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### OBSERVATIONS BY THE LATE F. ALDRICH ON AUSTRALIAN MARINE CRAYFISH IN CAPTIVITY

Edited by R. G. CHITTLEBOROUGH

#### I. INTRODUCTION

The late Frederick Aldrich\* was born on August 15, 1873, in New South Wales. He was appointed as a Fisheries Inspector in that State on March 19, 1900, and from 1905 to 1911 held the position of Keeper of the Gunnamatta Hatchery at Port Hacking, New South Wales. This fish hatchery was designed and constructed by H. C. Dannevig for the mass hatching of fry of marine fish, especially flounder (Lockyer, 1915).

During the period from 1905 to 1911, F. Aldrich maintained specimens of the local crayfish *Jasus verreauxi* (Milne-Edwards) at the hatchery, recording observations on growth, spawning and larvae. The results were not published and this species has been studied very little in the 55 years since this pioneering work.

\* Biography in "The Cyclopaedia of W.A.," ed. J. S. Battye, vol. 1, 1912: 513-514 (with portrait); Dept. Fisheries and Fauna, W.A. Monthly Service Bull., 14 (8), Oct. 1965: 171.